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ABSTRACT

A national conference was held to examine ways for improving vocational education in comprehensive high schools. One of the major ideas to emerge from the conference was that, like other high schools, comprehensive high schools offering a vocational component will have to make a commitment to excellence if they are to continue to serve a useful function. Particularly needed are the development of curricula with stiffer credit requirements and a more concentrated focus on the five new basics--reading, writing, mathematics, science, and computer technology. Such an improvement effort will demand a reassessment of the roles currently played in the comprehensive high school of the following factions and factors: administrative leadership, curriculum, teachers, the learning environment, integration of vocational and academic curricula, and research and evaluation. By taking the word "comprehensive" seriously, these schools can reach beyond their own limits to the total community to use community resources, build public support, collaborate with business and industry, and coordinate programs with other educational institutions to make the improvements necessary to achieve educational excellence. At the conference, 18 general educational goals were identified for achieving educational excellence in comprehensive high schools having a vocational component and various action plans were set forth for attaining these goals. (MN)

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Vocational Education In the Comprehensive High School:

An Agenda for Improvement

CE 040 421

VOCATIONAL EDUCATION IN THE COMPREHENSIVE HIGH SCHOOL

An Agenda for Improvement

Edited by

Toni Lydecker

American Vocational Association
2020 N. 14th Street
Arlington, VA 22201

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INTRODUCTION

This publication grew out of a national conference called "Vocational Education and the Comprehensive High School," which was sponsored by the American Vocational Association in June 1983. But it is not a conference proceedings in the usual sense, for you will find no verbatim transcripts of comments by speakers and participants. Instead, the report presents in an organized format the themes stressed by vocational teachers, principals, school board members, superintendents, researchers and others as they looked closely at the way vocational education functions within the comprehensive high school. Though often misunderstood, this term refers to about 6,000 of the nation's approximately 24,000 high schools; the comprehensive schools offer a minimum of five vocational programs, in addition to general and academic subjects.

Those who participated in the conference explain why vocational education belongs in this setting, against the backdrop of recent national studies that have sharply criticized public secondary education as it operates today. Throughout this publication, conference participants suggest numerous ways vocational education can build on current strengths to improve the quality of secondary education as a whole. Other thoughtful ideas came from the authors of articles in VocEd, the journal of the American Vocational Association.

The first section of this publication analyzes several changes in society and educational institutions that have led to the current predicament of the schools. After noting the problems and benefits of offering vocational education in the comprehensive high school, it discusses some implications of the sweeping solutions proposed by the various national studies.

The next two sections show that vocational education is already serving students well in the comprehensive high school and offer many ideas on how to improve programs in this setting. Section II discusses what can be done within the school, under these topics: administrative leadership, the curriculum, teachers, the learning environment, integration with the academic curriculum, and research and evaluation. The third section shows how high schools, by taking the word "comprehensive" seriously, can reach beyond their own limits to the total community. Using community resources, building public support, collaborating with business and industry, and coordinating programs with other educational institutions are the key subjects in this section.

The final section outlines how local high schools or school districts can achieve broad consensus on which educational goals are most important through organizing community forums. In addition to listing 18 general educational goals, the section gives dozens of action plans that could be used to implement the goals judged to be of the highest priority. Vocational teachers, administrators, school board members, state planners and others deeply concerned with comprehensive high schools were the sources for these action plans.

The conference and publication are part of a three-year study by the American Vocational Association on the condition of vocational education in different institutional settings. Following a detailed examination of the comprehensive high school, the study will turn to postsecondary vocational education in community colleges and other settings, and finally to separate vocational institutions such as area vocational technical schools. Hearings, conferences, workshops, informal discussions and reports are all part of this process. The results will not necessarily be orderly or conclusive, but we hope that out of this ferment will come real changes in vocational programs. The eventual result should be a blueprint for action that will have lasting effects on the way we prepare secondary and post-secondary students for their futures as working adults.

Because this publication arrives at the beginning of this exploratory process, it dictates no universal principles or conclusions. But we hope that the ideas presented here will stimulate you to begin asking your own questions and devising solutions. We look forward to hearing your plans for creating better vocational programs in the comprehensive high schools of your community.

SECTION I.

THE COMPREHENSIVE HIGH SCHOOL: PROBLEMS AND REMEDIES

After several years of neglect, the American high school is once again in the limelight. One national report after another has stressed the need for society to place the highest priority on public education and to reaffirm its support for the schools. These documents have also called attention to the special importance of secondary education. "Education at this level forms the basis for success in later education and training programs," says the National Task Force on Education for Economic Growth in its study, Action for Excellence. Furthermore, the report points out that for many students, high school is the last chance for education before entering the workforce.

The scrutiny of public education in these reports and the reform initiatives that have already begun are not superficial. Rather, they could lead to fundamental changes not only in the way we run our schools or pay our teachers, but in the very goals of public education. The analyses of the current performance of the schools are overwhelmingly negative. Take, for example, a much-quoted line from the report of the National Commission on Excellence in Education, A Nation at Risk: The Imperative for Educational Reform: "The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our future as a nation and a people." Paul Hurd, a researcher who did a national survey of student achievement, says in the same document, "We are raising a new generation of Americans that is scientifically and technologically illiterate."

Business managers and the military services echo the conclusions of the national reports, complaining that they must run costly remediation programs to compensate for the failure of the schools to teach basic skills. Several hundred companies surveyed by the Center for Public Resources spoke of supervisors who cannot spell, bookkeepers who cannot solve math problems involving fractions, and secretaries who do not read well enough to perform their jobs.

Though test scores in the elementary schools have improved in the aftermath of the "back to basics" movement of the past few years, the scores of high school students on achievement tests and college board examinations continue to be discouragingly low. Secondary vocational students consistently place last in the International Skill Olympics. And a dropout rate that remains persistently at 25 percent attests to the alienation many students feel from the educational system.

Radical Changes in Schools and Society

Until the recent outcry about low educational standards in the public schools, many high schools followed a practice of systematically broadening their curriculum. Over the past 15 years, largely as a result of community

pressure, they have added a multitude of electives, including driver training, sex education, and drug counseling. In one state, the schools offer more than 2000 distinct courses, many of them designed more to entertain students than to teach them subject matter of lasting value.

As curriculums have expanded, students have abandoned vocational and college preparatory programs in droves to enroll in less demanding "general track" courses. In 1964, only 12 percent of high school students chose the general track curriculum, compared to 42 percent in 1979.

At the same time that high school curriculums have become more "homogenized, diluted and diffused," in the words of the National Commission on Excellence in Education, the demands for skills and knowledge that employers place on graduates have risen. The minimum competencies necessary for economic survival are no longer limited to the ability to add a column of figures, read a newspaper paragraph or fill out a job application. Increasingly, students need to read, write and compute at a more sophisticated level. "The jobs that offer upward mobility will largely be those requiring creative use of technology," says Billy Reagan, superintendent of the Houston Independent School District. By the year 2000, for example, millions of jobs may involve laser technology and robotics—and few high schools are prepared currently to teach the skills necessary for these emerging occupations.

They are hampered in part by a dwindling supply of qualified instructors in fields such as math, science and some technical areas. Many talented women and minorities who would have entered education in an earlier time can now choose more glamorous, lucrative careers in business, law or medicine.

School systems have become too bureaucratic, say critics, and more decisions than ever are made "downtown" at district headquarters instead of at the point of program delivery. Teachers are so preoccupied with paperwork that, according to one estimate, they devote only 30-40 percent of classroom time to instruction. Often administrators are more the victims than the perpetrators of this situation. Saddled with the responsibility of building maintenance and other administrative tasks, high school principals may have little time for educational leadership and innovation.

With their diluted curriculums, teacher recruitment problems and unwieldy bureaucracies, many high schools are ill equipped to handle the increasing diversity of their clientele. School systems are struggling to educate a flood of immigrants, many of whom do not speak English—in several states, the enrollment of minorities now exceeds 40 percent. As a result of legislation passed in the mid-1970s, the schools also have a heavier responsibility to serve mentally and physically handicapped students "in the least restrictive educational environment."

The "greying of America" will have long-range effects on the number of students in schools; while the typical high-school clientele is becoming more heterogeneous, it is also growing smaller. Already, declining enrollments of the age groups that normally attend high school have prompted

school systems to design programs for other groups, such as preschool children and adults.

Shifts in population distribution can also affect schools adversely. In the Sunbelt, where their parents have moved in search of jobs, students may attend overcrowded schools, while many classrooms in the northeast and midwest stand half empty.

The Vocational Component

Amid the controversy that surrounds modern high schools, vocational programs continue to function. It is time to consider their role within this setting. Though secondary vocational programs are found in a variety of institutions (area vocational-technical centers, technical institutes, and specialized vocational high schools, to name a few) the comprehensive high school is its oldest and still most common setting. As mentioned earlier, this term refers to about one quarter of the nation's approximately 24,000 high schools. These institutions offer a minimum of five vocational courses, in addition to general and academic courses.

One hears frequently that vocational education is found at its weakest in the comprehensive high school. It may be there because a bond issue for building a separate facility failed to pass. And it may take second place to academic instruction, with scant attention given to high-quality equipment, effective advisory committees and other components of a first-rate vocational program. According to many vocational educators, the comprehensive high school is more likely to tolerate a shallow exploratory approach to vocational instruction than a vo-tech center.

There are several other weaknesses of the comprehensive high school as a setting for vocational programs. Most high schools lack sufficient enrollments to support the number and range of vocational programs necessary for excellence; high school principals and other administrators often place priority on the college preparatory program at the expense of vocational education; and the structure of school systems makes it hard for them to respond to changing labor market demands by altering vocational programs.

Despite these difficulties, most communities continue to believe that vocational education belongs in the comprehensive high school. "'Comprehensive' is not a bad word," says Margaret Buvinger, a school board member from Enid, Oklahoma. "It means getting involved with the entire student population—everyone from handicapped students to the gifted and talented." At a recent conference of the American Vocational Association, where speakers and participants provided most of the insights contained in this publication, no one questioned whether vocational education should remain part of the secondary curriculum. Instead, the focus was on program improvement in this setting.

What are the benefits of offering vocational programs in the comprehensive high school? First, studies have shown consistently that more students are exposed to vocational education there than in other kinds of

institutions; seven out of ten students, in fact, take at least one vocational course before graduation. When, as in some systems, they take much more, vocational education becomes indispensable to the curriculum. For example, 5 percent of the juniors and seniors in the public schools of Cincinnati, Ohio, specialize in vocational education. One advantage of having the programs in the regular high schools, says Carol Davidow of the Cincinnati Business Committee, is that they can participate in extracurricular activities and academic classes alongside students in other courses of study.

Mastering the knowledge and skills necessary to obtain an entry-level job is a fundamental purpose of vocational education, both in the comprehensive high school and other settings, but these programs also provide a way for students to acquire attitudes and values that will serve them well, regardless of the career or educational path they choose. Walter Vanderbush, a high-school principal from Buchanan, Michigan, maintains that vocational programs can help any student develop positive work attitudes and learn to perform tasks judged by high standards. "You can't make a piece of machinery that's 70 percent correct—yet this would be a passing grade in history or algebra," he says. Educators cite other benefits of vocational education in the comprehensive high school: "It is an excellent foundation for further occupational training on the job or in postsecondary institutions"..."Students learn to respect themselves and others, to be on time and to accept responsibility"..."Through vocational student organizations, they develop leadership skills and higher self-esteem"..."Vocational programs provide a more interesting way to learn basic skills."

Prescribing Remedies

If vocational education is to continue to serve a useful function in the comprehensive high school, it will have to change and improve along with other program components. The national studies cited earlier are unanimous in urging the schools to make a commitment to excellence, without sacrificing equal educational opportunity for all students. The Task Force on Education for Economic Growth wants to "make the academic experience more intense and productive" by increasing the total amount of time students spend in school and on homework.

Members of the National Commission on Excellence in Education agree. They recommend that schools strive for excellence by adopting a curriculum that includes the "Five New Basics," with stiff credit requirements and performance standards for the humanities, math and science, including half a year of instruction in computer technology. Moreover, the curriculum should provide "programs requiring rigorous effort in subjects that advance students' personal, educational and occupational goals, such as the fine and performing arts and vocational education. These areas complement the New Basics, and they should demand the same level of performance."

In a new report called High School, the Carnegie Foundation for the Advancement of Teaching proposes that students be required to participate in a "core curriculum" to earn two-thirds of the total credits for graduation. During the first two years of high school, every student would

take the same basic courses, while more time for alternate program selections would be available during the final two years.

Vocational educators agree that their programs should adhere to the same high standards as other kinds of courses, but many worry that increasing the requirements for academic courses across the board will force schools to cut back on the number of hours allotted for vocational courses. If they spent less time in their vocational classes, the performance of vocational students could actually drop rather than rise.

Because educational programs are diverse and subject to local control, vocational educators also doubt that there is a national panacea—such as an increase in academic course requirements or imposing a uniform curriculum on all students—that will result in program improvement for every school. A better solution might be to identify competencies to be mastered, then allow students to select courses from the total curriculum that will help them master the desired skills. Clifton Belcher, state director of vocational education in North Carolina, puts it most succinctly: "Mandate competencies, not courses."

Because it has concentrated on the deficiencies of the nation's high schools reported by various national commissions and individual observers, our publication thus far may seem overly gloomy about the state of public education. In the remaining sections, however, we turn to programs and activities that can contribute to excellence in the American high school. Specifically, the following sections analyze vocational education as a key to quality improvement.

SECTION II

WORKING WITHIN THE SCHOOL SYSTEM

Administrative Leadership

The successful comprehensive high school is run by policy makers and administrators who share a commitment to vocational education. From the superintendent and school board down to supervisors of specific occupational areas, everyone involved in policy making and administration must believe that the school has an obligation to prepare graduates for work and that good vocational programs are critical to attaining excellence in the curriculum. All policies and actions should reflect this shared belief.

Lloyd Walton is superintendent of schools in Appomatox, Virginia, where 80 percent of the students take at least one vocational course and 60 percent go to work immediately after graduation. He explains why vocational programs occupy such a strong position in the school system. "Our administrators, funders, teachers and community believe in quality education, whether academic or vocational. And we have found that the skills, work ethic and feeling of responsibility students gain from vocational education contribute to their success in the workplace."

In this kind of setting, vocational education appears on the agenda and in the minutes of every school board or staff meeting and, when funding cuts are necessary, vocational education is not seen automatically as the first target. Policy makers and administrators usually have intimate knowledge of what goes on in the classroom. Often this is because teachers and lower-level administrators have done a good communications job. "Administrators in the specialty areas must provide detailed information and a rationale in order for us to do general planning for educational programs," says Margaret Buvinger, a school board member from Enid, Oklahoma. She recommends that vocational educators invite school board members, singly and as a group, to visit exemplary programs. Only with this knowledge can school boards and superintendents set clear goals and fund programs to bring them about.

Dynamic leadership by the principal is essential to quality education in any high school, as research has documented repeatedly. Principals and other administrators demonstrate a higher level of leadership in relation to the vocational program when they have some knowledge of the field. For example, Norris Hogan, principal of the George Washington Carver Comprehensive High School in Atlanta, Georgia, has an advanced degree in vocational education. Largely as a result of his strong belief in the value of vocational programs, the school not only offers 29 vocational courses, but requires every student to participate in at least one of them and to possess a marketable skill upon graduation. Other schools have achieved good results by hiring an assistant principal for vocational services. Staff development may be the answer in other cases; in Florida, short courses are held regularly for principals and supervisors lacking experience in vocational education.

The creative administrator of vocational programs has a plan for program improvement—preferably, one that is coordinated with regional and state plans. Another necessary quality is responsiveness to changing technology and program needs. This means flexibility in opening, closing or changing programs; for example, labor market demand may point to replacing some welding classes with electronics programs. Justifying such steps to school boards and superintendents may require rigorous evaluation of current programs. Ideally, the principal or other administrator should also have the authority to hire some vocational teachers on a part-time or short-term basis if the need for their services may fluctuate, and to retrain or transfer full-time teachers if the demand for their specialty declines.

The effective manager must also ensure that all groups with special needs are served well by vocational programs. To improve services to handicapped students, for example, it may be helpful to organize an advisory committee of vocational and academic teachers, employers and administrators to carry out program development and in-service training of school staff.

Organizing good staff development programs, both long- and short-range, is another key to program quality in the comprehensive high school. According to Dan Bruffy, who runs statewide staff development programs in North Carolina, four main groups besides vocational educators should take part in in-service activities oriented to vocational education: administrators (especially principals), guidance counselors, advisory committees and academic teachers. Arkansas is running an innovative program in which teachers are training other teachers and administrators are training administrators. (For more ideas on staff development, see the section on teachers.)

The Curriculum

The successful comprehensive high school offers a strong, student-centered vocational curriculum with high performance standards. One of vocational education's strengths has been a philosophy of helping students reach their full potential through mastering skills at their own pace. This emphasis on individualized instruction has increased in recent years, as educators have learned from their experience in writing individualized education plans for handicapped students that such plans can be useful for every student.

During the junior high years and the early part of high school, career exploration programs combined with guidance counseling can help students make tentative career decisions. But excellent high schools also provide in-depth programs that enable students to specialize in an occupational field or cluster during the final two years of high school. "The programs that make a difference are rigorous and intensive," says Gene Bottoms, executive director of the American Vocational Association. When they graduate, vocational students not planning further education should possess marketable skills that will enable them to find employment. The school should provide them with a document, called a "career passport" in some systems, that shows the level of competency they have achieved in the vocational program.

The curriculum should be flexible enough to allow students to change their minds or to prepare more thoroughly for a career. For instance, a student who initially wanted to be a nurse's aide should be able to switch to a related field such as medical secretary or medical technician. Similarly, students should be able to move smoothly between courses in auto body repair, diagnostic tune-up and mechanics to get more intensive training.

High performance standards are essential, but they should not be imposed at the end of the educational experience. Instead, good vocational programs use a competency-based curriculum that allows students to master complex skills, step by measurable step.

In addition to clearly defined exit skills, comprehensive high schools should provide benchmarks along the way to demonstrate what vocational students have achieved. Awards and prizes can help accomplish this purpose. The Boston Chamber of Commerce, for example, offers scholarships to 28 outstanding seniors planning to enter postsecondary vocational programs. In Georgia, a statewide competition called GOAL (Georgia Occupational Award of Leadership) gives recognition to vocational students who demonstrate exceptional leadership or occupational proficiency skills.

Vocational programs normally include some kind of direct exposure to the workplace, such as shadowing or cooperative work experience. In a program with high standards, the teacher visits the students often at their work sites and maintains close contact with their supervisors. Moreover, credit is given only for work assignments that apply directly to a student's career goal and tie in closely with classroom learning. This may mean requiring that a student work in every department of a supermarket rather than simply bagging groceries.

Hands-on experience belongs in every vocational program, but the best programs do not deepen knowledge simply by more practice in the workshop or laboratory, or more facts in the classroom. Instead, they teach students the "why"--the technical knowledge that underlies a discipline. When one of the national task forces asked industries what knowledge workers will need in the future, the consensus was critical thinking skills, an ability to synthesize data and to work from incomplete data. Francine Hultgren, a professor at the University of Maryland, agrees with this analysis and has developed an approach to curriculum designed to promote critical thinking in the vocational classroom. "Too often we emphasize manual skills instead of the reasoning process. Critical thinking can be mastered through practice, like any other skill," she says.

As noted earlier, comprehensive high schools often lack sufficient enrollments to offer the range of courses or depth of instruction a student needs to become thoroughly proficient in an occupation. Many schools are overcoming this obstacle, however. When enrollments within the school are inadequate, they collaborate with other schools and postsecondary institutions to offer more and better courses; when state-of-the-art equipment is too expensive to buy, they borrow it from industry or lease it from the state;

and when jobs in the construction trades dry up, they phase in medical occupations programs or other vocational programs that lead to good job opportunities.

An example of truly student-centered education is the vocational curriculum in the high schools of Greece, New York, where students begin orientation to the world of work during their junior high years. They are ready for more intensive exploration of a career cluster in the tenth grade and pre-specialization in the eleventh grade. In the twelfth grade, they can take advanced vocational courses, complete with cooperative education, individualized study programs and alternative training options. Students who want still more intensive preparation are eligible for additional training opportunities through a cooperative arrangement with eight other school districts.

The Teachers

The successful comprehensive high school hires top-notch vocational teachers and keeps them performing at their best. Schools have always had to compete with the private sector for math, science and vocational teachers, but the battle is tougher than ever now, as many gifted women and minorities who formerly filled the teaching ranks choose alternative careers with more glamour and bigger paychecks. In some cities, the problem of recruiting qualified teachers is approaching the crisis point. For example, the average age of New York City teachers in some vocational fields is nearly 60 years old.

To cope with this situation, drastic measures are in order. Redirecting more resources to teacher salaries is one solution. The Houston Independent School District hopes to attract and retain superior teachers by offering annual salaries expected to average $50,000 by 1987. Teachers will receive a higher base salary, plus incentive pay for teaching throughout the year (with six weeks vacation); taking in-service training in microcomputers and other specialized topics; working in a school with a high proportion of disadvantaged students; and having outstanding attendance.

Thomas Boldrey, director of industry-based education training for KineticSystems Corporation, suggests that schools reduce the loss of good teachers to private industry by forming agreements with corporations to share employees with the right mix of qualifications. A person would work half-time in each setting, with the company agreeing to pay a larger share of the salary as a public service.

Schools should also be quick to respond when oversupply of certain vocational teachers is the problem, perhaps as a result of labor market changes. Hiring some part-time or short-term teachers and giving preference in hiring to teachers with more than one specialty are ways to create flexibility in the system, so that the size of programs can be adjusted to the demand. A long-term decline in job openings for a vocational field may even dictate reassignment of some full-time teachers. In the Boston public schools, for example, woodworking teachers are being retrained in electronics to prepare students for employment in the city's burgeoning high-tech industry.

To help guarantee a continuing supply of well-trained teachers, individual schools or districts can forge alliances with local teacher training institutions, offering joint seminars and well-rounded practice teaching experiences. Secondary schools can also exert a positive influence by advising these institutions on the kinds of studies that will be useful to students once they become teachers; courses on interpersonal and communication skills, stress management and career planning are examples.

Once on the job, teachers need support in performing their jobs. In a good system, the teachers have written job descriptions, know what is expected of them and receive annual evaluations. The master teacher systems being adopted by some communities can help beginning vocational teachers learn the art of teaching under the tutelage of more experienced instructors. More than most teachers, vocational staff also need help in keeping pace with the bewildering rush of technological change. Henry David, a consultant who directed the five-year study of vocational education by the National Institute of Education, says, "Education is always best when teachers have full control of the material, but this is hard to do when the technology is constantly changing. Despite all our rhetoric, teachers cannot teach the future—they must teach what they know."

The remedy is good, in-depth staff development programs, which can help bring teachers closer to the future. As David says, "Any system that makes a one-time investment in the preparation of teachers is sure to fail." Schools and school systems should base in-service programs on the skills and knowledge teachers <u>say</u> they need to acquire, as well as an objective analysis of the expertise they will need to transmit to students.

A common problem is the vocational teacher who becomes professionally isolated because he or she is the school's only specialist in that field. Such a teacher needs encouragement to join staff development activities with teachers of similar interests from other area schools. If this is impractical, the teacher should be allowed to participate in an individual professional development activity. For example, a school might give its only health occupations teacher an opportunity to do an internship at a local clinic or enroll in an in-service program offered by an organization of medical professionals.

Training in the use of computers and other high-technology equipment is important for vocational teachers in many fields. Showing teachers how to use research findings to improve instruction is another possible emphasis of staff development sessions. In addition to conferences and other activities organized within a school or school district, teachers should participate in internships or sabbaticals in the private sector, with substantial blocks of time set aside for this purpose. In a program sponsored by the Utah State Office of Education, for example, business education teachers brush up on their word processing skills by taking part in paid internships; they either share an office job with several other teachers during the school year or work full-time during the summer months. Administrators can also remind local industries to invite teachers to their industry update seminars.

The Learning Environment

The successful comprehensive high school establishes an environment calculated to promote learning. So far we have identified administrative leadership, a solid curriculum and first-rate teachers as ingredients of a good vocational program in the comprehensive high school. But a fourth, more elusive quality is also necessary for vocational education to thrive in this setting—esprit de corps, or a sense among students, faculty and administrators that everyone is working together toward a worthwhile goal.

It is hard to specify how to achieve this shared belief in a clear and vital mission, for it depends on many people within the school. The principal and teachers are important, but students must do their share as well. For example, vocational student organizations can often sponsor activities that foster a spirit of enthusiasm and cooperation.

"We usually receive back those attitudes which we send out," says Jane Gatewood White, an Ohio vocational teacher and administrator. When principals are open to new ideas, they encourage this characteristic in teachers, who in turn develop more respect for their students' ideas. This does not mean adopting every proposal that comes along, however. White talks of one "hardheaded administrator" under whom she once worked—his door was always open, but he demanded that all plans be carefully thought out. Similarly, teachers in a positive learning environment are content with only the best efforts of their students. They continually ask, "Why?" and encourage students to develop the habit of an inquiring mind.

Qualities such as responsibility and personal initiative are most common when everyone has some voice in making decisions. Though the principal or teacher may have the final word, all parties who are affected by a decision should have a chance to express their opinions. Arranging for teachers and administrators to meet regularly in small groups to plan program improvements is essential; the Japanese technique of quality circles is one technique for identifying problems and devising solutions in a systematic way. Student representatives should attend such sessions when appropriate. When a decision must be made unilaterally rather than by consensus, a procedure should exist for communicating the reasons for the action.

Learning is promoted when there are a minimum of distractions in the school environment. This means that ways must be found to ease the routine paperwork burden of teachers, to minimize the number of announcements made on the public address system during class time and to support teachers in maintaining classroom order. Undeniably, the personalities and policies of the principal and other top administrators are the key to accomplishing these goals; there is no single formula for creating a positive learning environment, however, and different management styles may work equally well for their particular circumstances. Here are two examples of contrasting approaches.

Norris Hogan describes the learning environment in Atlanta's George Washington Carver Comprehensive High School, where he is principal: "The average income of our students' families is less than $3400 a year and

90 percent are on the free lunch program. We have a no-suspension policy, no detention hall and no hall monitors, but we also have no nonsense. Three minutes are allowed between classes and our teachers demand punctuality." Rather than using punishment as a deterrent to undesirable behavior, the school puts a great deal of energy into a more positive approach of intensive counseling, carried out both by staff counselors and seminary students completing internships on the campus.

The local high school in Buchanan, Michigan, uses a different approach to achieve a business-like atmosphere that maximizes learning. Traditional disciplinary measures such as hall monitors are employed and students lose course credit if they fail to comply with a strict attendance policy.

Creating an environment favorable to learning is basically the same for vocational teachers and students as for others in the school. Special attention must be given, however, to maintaining a balance between collaboration of vocational education with other sectors of the school and the development of an identity as a program with distinctive qualities and needs. In a large school, vocational students and teachers may feel that their activities get lost or that they are misunderstood. Sometimes this problem is solved by creating a "school within a school" that establishes a more cohesive, supportive setting for those involved in vocational programs.

Integration with the Academic Curriculum

Despite their concern that more rigorous requirements for academic courses could hamper the ability of students to pursue intensive vocational studies, most vocational educators do not regard academic education as an antagonist. In fact, many believe that a closer alliance between the two branches of education could help prevent one from being built up at the expense of the other. "We need to move away from labelling academic and vocational curriculums as having nothing to do with each other. Vocational students need the same competencies as academic students," says William Castorena, a high school principal in Alamogordo, New Mexico.

In part, this means that vocational education should support rigorous academic instruction designed to teach students the basic skills that will help them perform at their best in all courses. Technical manuals and textbooks used in vocational classes often require a sophisticated reading level for full comprehension. Vocational students must also be able to express themselves well, both verbally and in writing, and have a good understanding of mathematics. Thus, the levels set for minimum competency tests are often not enough for optimal performance in the vocational classroom and on the job.

Often vocational teachers can help boost enrollments in needed academic courses by encouraging their students to sign up. Emeral Crosby, principal of Northern High School in Detroit, Michigan, reports that few students were taking more than one year of math, despite urging from school counselors. Vocational students began enrolling in greater numbers, however,

once their teachers told them they needed additional algebra and other math courses to do well in their vocational courses.

Vocational teachers can also teach basic academic skills directly to students. In many cases, "related credits" for math, science and language courses taught in conjunction with vocational courses can help vocational students fulfill increased credit requirements for academic subjects without decreasing their vocational course load. A second advantage to incorporating academic skills into vocational courses is that some students may become more motivated to master them under these circumstances. Fred Steckel of the Electronic Industries Association tells of one student who performed poorly in his academic courses. Yet not long after entering an electronics course, the boy could do detailed schematics of television circuits, proof that he could read and understand complex technical manuals.

Arrangements for related instruction must be managed carefully to avoid friction with academic instructors. In the Anne Arundel County schools in Annapolis, Maryland, for example, the academic teachers protested when vocational teachers began to teach basic skills for credit. To help resolve the situation, vocational teachers and administrators identified the relevant math and science skills for each occupational area. When they met with the academic teachers to compare goals, they found they were already meeting 75 percent of the skill objectives for the regular academic courses.

"You have to be able to demonstrate how much time you are spending on this kind of instruction and exactly what you are teaching," says Dave Shoemaker, coordinator of trade and industry for the Anne Arundel schools. He believes that academic instruction should be concentrated in one segment of the program, such as the first 30 minutes of each class, both for the students' benefit and to demonstrate the amount of related instruction that is being given. In-service training to sharpen the skills of vocational teachers in teaching related subjects is also advisable, according to Shoemaker.

In teaching language skills, vocational teachers should try to familiarize students with the kind of reading material they will actually encounter in the workplace. "Reading a textbook to memorize facts is far different from reading reports, manuals, tables, diagrams and printouts in order to get the job done," say Larry Mikulecky and William Diehl in "Reading for Vocational Literacy," a VocEd article (August 1983). The authors advocate gathering printed materials from employers to use in class activities. They also suggest labelling classroom materials and equipment to familiarize students with the terminology they find in their reading and asking students to make signs that list safety rules or explain how to operate equipment.

Another important aspect of incorporating reading instruction into the vocational program is to help students comprehend the connection between the printed word and the steps they must take to complete a manual operation. Teachers can help demonstrate the mental process by talking to themselves as they do a task, according to Mikulecky and Diehl. For example, they might say, "Since I don't know exactly what tools I'll need,

I'd better check the table. First I'll check..." Asking students frequent questions to test comprehension is another way to strengthen their application of printed information to work situations.

Research and Evaluation

The successful comprehensive high school uses research findings and systematic evaluation to improve vocational instruction. When resources are tight, research and evaluation are sometimes seen as frills that can be discarded without great harm. Linda Lotto, assistant director of planning at the National Center for Research in Vocational Education, argues against this idea. "We ought to have national, state and local plans for program improvement that include research as a central activity in all vocational programs. It is time we stopped playing off program improvement monies against maintenance monies." She adds, "If you get some money for a computer program, why not use some of it to evaluate the effects?"

Lotto and other researchers point out several fruitful, but largely unexplored issues: vocational education's role in improving basic skills, alternative settings for vocational programs and the relationship of vocational education to dropout prevention. Findings in general education research, such as studies of the components of effective schools, could also be applied profitably to the improvement of vocational programs.

Doing more and better research is not enough, of course—it must find its way into the vocational classroom to yield results. Informal seminars on research findings can be an excellent way to show teachers how to turn theory into action.

Every school that cares about the results of its educational efforts does some kind of evaluation. Thorough, regular testing of general achievement and specialized skills is the best way to identify deficiencies so they can be corrected at an early stage. Thus, the school's testing program should be tied directly to its remediation efforts. Follow-up of vocational graduates for several years is another essential ingredient of good assessment.

Tom Owens, senior research associate of the Northwest Regional Educational Laboratory in Portland, Oregon, suggests measuring program effectiveness by comparing the views of several different groups: vocational and nonvocational students, staff, parents and employers. Through using multiple sources, school staff can gain a more comprehensive picture of a program and use these insights to improve it.

SECTION III

REACHING OUT TO THE COMMUNITY

The Community as an Advocate

The successful comprehensive high school seeks out and creates community advocates for its vocational programs. We stressed earlier that standards of excellence for vocational education exist only when the school hierarchy, from the superintendent and school board down to building-level administrators, has a strong commitment to them. Similarly, vocational education must have broad public support to be perceived as central to program improvement. A school that has taken the time to build community support is more likely to find approval for innovations such as operating the school year round to maximize resources, investing in expensive technical equipment or raising the proficiency standards for vocational programs.

Administrators and teachers should invite business and civic leaders to take part in the planning, implementation and review of all program improvement activities. Parents are another essential, but often overlooked group. One teacher tells of a student whose father laughed upon hearing that she failed home economics; certainly, the serious lack of communication and shared values between home and school demonstrated by this incident can damage the quality of education. Parents should be encouraged whenever possible to teach their children respect for goal setting, achievement and disciplined work.

Strategies for familiarizing parents and other groups with vocational programs include career fairs, awards ceremonies for outstanding vocational students and well-publicized open houses. Such events can also show potential students how vocational programs can help them define and pursue career goals.

Once members of the community are aware of what your vocational programs are accomplishing, they can be recruited for more active duties in promoting vocational education. Human service agencies, churches and social, political and civic organizations are a few of the groups that can be helpful in spreading the word about programs. They might distribute promotional material for you, mention a new vocational program in a newsletter or agree to testify at a legislative hearing on the effectiveness of your program. Another possibility is recruiting volunteers, such as retired persons with a strong interest in education, to help with your promotional efforts.

Vocational educators experienced in working with community groups and individual volunteers say the best strategy is to offer them something in return rather than simply holding out your hand for charitable contributions. For many groups, the prospect of preparing a better workforce for the future may be enough, but others may appreciate the offer of favorable

publicity, student volunteers or the first opportunity to interview program graduates. Individual volunteers should be rewarded by frequent recognition of their aid.

The Community as a Resource

The successful comprehensive high school uses the whole community as a resource. When a school's own resources fall short, administrators can often find what they need by turning to private businesses, public agencies, community groups and the public at large. A school that needs expensive equipment for a computer aided drafting program, for example, may investigate the possibility of leasing or buying government surplus equipment; contract with a computer, architectural or engineering firm for students to use the equipment on-site either free or at a reduced rate; or organize parents to raise the necessary funds for purchase.

Other examples of direct community aid to the schools are abundant. In one city, community-based organizations that receive federal funds to work with urban disadvantaged youth are helping the high schools with counseling, dropout prevention and technical assistance to teachers. They also run computer camps for the youth in school facilities during the summer. In other cases, the local private industry council may run a jobs fair for seniors, a placement service for graduates or a work-study program for special needs youth. Vendors of tools and equipment will often be willing to put on demonstrations for vocational students. Vocational teachers who think a structured field trip to a plant will give their students a clearer understanding of an occupation could ask the company, a related professional organization or a trade union to cover the costs for transportation and other expenses.

Schools with vocational programs that are in trouble because of declining enrollments or that want to make maximum use of equipment and facilities can also benefit by turning to the community. Recruiting other population groups such as working or retired adults can be an excellent way to perform a needed service, while making use of program resources during non-school hours. An after-school institute in word processing might be popular with both adults and youth from surrounding schools if jobs in this field are plentiful. In Appomatox, Virginia, the high schools are working with the local social services department to train welfare recipients as sewing machine operators, after obtaining an agreement from a local factory to hire them when the program is over.

Vocational advisory committees are an excellent way to infuse the expertise of business people and other community members into the schools. Among other things, these groups help plan the curriculum, select and obtain needed equipment and materials, certify performance standards and find jobs for students. In addition to a school-based advisory committee for all vocational programs, a systemwide advisory committee can be found to address the specific problems of each occupational program area. Schools that regard such advisory committees only as a means of rubberstamping decisions are wasting everyone's time; administrators should make sure that the groups hold regular meetings, keep minutes, receive administrative support and perform needed work.

Sometimes an advisory council can be invaluable in a crisis. Because of funding cuts, the high schools in Petersburg, Virginia, were in danger of losing trade and industrial instructors whose contracts had been reduced from 12 months to 10. Through individual and group actions of the local advisory council, the teachers received extended contracts and decided to stay on.

In the best high school vocational programs, teachers and administrators regard the entire community as a forum for learning, rather than insisting that all instruction take place on campus. Where this attitude prevails, there are numerous ways to enrich vocational programs through collaboration with the private sector and other educational institutions. Some of these strategies are discussed in the remainder of this section.

Collaboration with the Private Sector

The successful comprehensive high school strengthens vocational programs by creating partnerships with business and industry. "We are approaching the point where the nonschool may no longer be the shadow system," says Michael Usdan, president, the Institute for Educational Leadership. He is referring to the heavy investment, now estimated at about $40 billion, of private companies and others in training programs that compete directly with the schools. Private companies have entered this market partly for profit and partly because they believe the schools are not doing an adequate job. Regardless of the reason for the private sector programs, the schools will have to improve their vocational programs in order to compete successfully.

Paradoxically, one of public education's best allies for this purpose is its competitor, the private sector. Schools that have made the most of this community resource typically have strong ties with local companies. Teachers and counselors should not only know the heads of small firms and the training managers and supervisors of larger firms within the area, but stay in touch with them on an almost daily basis. Ideally, there is also a two-way flow of people: industry representatives visit the schools, while students and teachers spend time on the industry site.

Help from the private sector comes in many forms. One of the most common is an agreement by the company to donate or lend equipment or personnel. In California, a statewide business roundtable has led the way in drawing attention to the condition of the schools and drafting a teacher merit pay proposal. Here are a few other examples.

When the Cincinnati, Ohio, school system asked business leaders for help, they started by giving technical assistance in the areas they knew best: budget and management. "It helps our educational managers tremendously to work with business people, especially if they came up through the ranks of teachers and have little informal management training," says Carol Davidow coordinator for schools, of the Cincinnati Business Committee. Now the city has a full-scale "Partners in Education" program featuring career fairs, classroom presentations by corporate employees and opportunities for students to "shadow" workers.

Chicago's 177 public high schools are paired with 187 companies, some with as few as four employees. A common contribution of a firm in the program is to purchase a set of work materials or tools for each vocational student, so that students do not lose valuable classroom time taking turns or disassembling a partially completed project to permit students in the next period to use the same materials.

Rather than investing in expensive equipment and specially trained staff, the local high school in Lockport, Illinois, has contracted with a computer firm to teach students on their premises how to program, troubleshoot and even build their own computers.

Sometimes it makes more sense for the industry to come to the school. In a high school in Lexington, Massachusetts, for example, McDonald's Corporation runs a fast-food operation for educational purposes inside the school. The company rents space from the school and trains vocational students in the basics of food service operations and management techniques. McDonald's not only gives students paid experience on the job, but provides instructors to help teach students in the classroom.

The "Boston Compact" has created a contractual relationship between the city's high schools and private industry. The schools have agreed to achieve a 5 percent increase in the number of students who graduate each year, plus a 5 percent increase in the number of graduates who become employed or enter postsecondary institutions. Moreover, by 1986, all students will have to pass competency exams in math and science to graduate. In return, the businesses participating in the compact promised to give hiring preference to graduates of the public high schools. "The focus of our entire secondary school system now is on getting students ready for jobs," says James Caradonio, director of education and employment for the Boston public schools. "We are finally admitting that we have an obligation to work with kids who don't go to college—and even students who do go will need jobs to help pay their tuition."

Coordination with Other Educational Institutions

The successful comprehensive high school strengthens its vocational curriculum and minimizes transfer problems for students through coordination with other delivery systems. Careful planning and cooperation with other secondary institutions and community colleges can often enable high schools to fill in gaps in their services. Through a shared-time program, several high schools might pool their resources to provide students with superior preparation in electronics, graphics or foodservice occupations. "Mobile programs" that circulate among the participating schools may be a better solution for schools that want to avoid transporting students from one campus to another.

A regional information exchange for equipment can help schools acquire needed equipment or dispose of items they no longer want. The inventory should be computerized, if possible, and a cooperatively developed list of resources available from private companies and public agencies could also be included.

Cooperation among institutions can also permit greater administrative flexibility, thereby leading to program improvement. In California, consortiums of local school districts have formed "regional occupational programs" that have the authority to hire part-time instructors, employ teachers under short-term contracts and pay salaries equivalent to those of private industry.

In addition to helping a school improve its curriculum and equipment, coordination among educational institutions enables vocational students to move smoothly from one institution to another. "When delivery systems are fragmented, they are more vulnerable to failure, and this is an injustice to students," says Henry David, an educational consultant.

All secondary and postsecondary institutions offering vocational programs in an area should communicate regularly to make sure their proficiency standards are equivalent and that they conform to the performance tests used by local industries. Students should be able to transfer easily to another secondary program, or enter a postsecondary or industry-based training program. When they have already mastered introductory level skills, students should be eligible for advanced standing or credit.

Some high schools have agreements with technical institutes or community colleges that permit dual enrollments when students need courses not offered by their home school. Dual appointments of instructors by two or more institutions are another way to link the vocational education offerings of different delivery systems.

SECTION IV

GOALS AND ACTION PLANS FOR PROGRAM IMPROVEMENT

Throughout this publication, a central theme has been the need to achieve a broad consensus among professional school personnel, students and community members on the general goals of public education and, in particular, the way vocational education can function most effectively within the comprehensive high school. In this section, you will learn one strategy for accomplishing this task: organizing a series of community forums.

Setting General Educational Goals

The first step is to determine which educational goals are most important to the community and how well current programs are meeting those goals. The procedure suggested here for reaching a community consensus on these issues is an abbreviated version of one outlined in the Educational Planning Model Manual, produced by Phi Delta Kappa's Center for Dissemination of Innovative Programs. If you are interested in using this format for organizing a forum, we suggest that you obtain a copy of the three-part manual (full ordering information is available from Phi Delta Kappa, Inc., 8th and Union, P.O. Box 789, Bloomington, IN 47402).

A community forum for setting educational goals must have the full support of the superintendent or principal and the school board, even if other staff actually plan and operate it. Moreover, all concerned must agree to adjust program objectives so that they are in accordance with the priorities set by the forum.

There are several ways to select the forum participants. In a small community, an open invitation to all citizens may be appropriate. In a larger community, the superintendent or principal can choose forum members in one of three ways: randomly, on a volunteer basis according to predetermined criteria or by direct appointment. School staff, including vocational and academic teachers, should be assigned to work with the community members, and student representatives may also be asked to participate.

The community forum is assembled at least twice. At these meetings, they consider a number of broad educational goals and rank them in order of priority, first individually, then in small groups and finally as a total body. The goals suggested here, which appear in the Phi Delta Kappa manual, were developed originally by the California School Boards Association; repeated field tests have demonstrated that they are comprehensive, for few community members suggest additional goals. Goals 9, 15 and 16 are of particular interest to vocational educators, for their ranking by the community forum will indicate the value placed on vocational programs by community members and how well they think current programs are responding to these goals.

After glancing over the following goals, review the procedure to be followed by the community forum in considering them.

General Goals

1. Learn how to be a good citizen.
2. Learn how to respect and get along with people who think, dress and act differently.
3. Learn about and try to understand the changes that take place in the world.
4. Develop skills in reading, writing, speaking and listening.
5. Understand and practice democratic ideas and ideals.
6. Learn how to examine and use information.
7. Understand and practice the skills of family living.
8. Learn to respect and get along with people with whom we work and live.
9. Develop skills to enter a specific field of work.
10. Learn how to be a good manager of money, property and resources.
11. Develop a desire for learning now and in the future.
12. Learn how to use leisure time.
13. Practice and understand the ideas of health and safety.
14. Appreciate culture and beauty in the world.
15. Gain information needed to make job selections.
16. Develop pride in work and a feeling of self-worth.
17. Develop good character and self-respect.
18. Develop skills in mathematics and science.

Determining Priorities

1. Members rank goals independently. The proposed goals are distributed to all forum members and, after discussion with friends and neighbors, they number the goals in order of importance. Anyone who believes an important goal has been omitted, should contact the forum organizer so that it can possibly be put on the agenda for the first meeting.

2. Small groups rank goals. At the first meeting, the forum members divide into small groups to discuss the goals and arrange them again in priority order. Consensus is achieved on the basis of majority voting.

3. Small group results are computed. The scores on the groups score sheets are averaged to achieve a mathematical consensus. For example, if the four groups in a forum assign values of 11, 10, 8 and 6 to a particular goal, the average is 8.75. Round off the figures after all averages are computed; resolve any ties through a vote.

4. Whole group endorses rank of goals. At the second community meeting, the forum members review and endorse the goals as ranked by the small groups to help guide the policies and actions of the school board, administrators and teachers.

The same four-step procedure can be used to evaluate how well the school or school district is doing in achieving the goals, particularly those judged most important. The following categories for performance

could be used on the score sheet: (1) not responsibility of schools, (2) extremely poor, (3) poor, (4) fair, but more needs to be done, (5) good—leave as is, and (6) too much is being done.

Forming Action Plans for Program Improvement

After determining the relative importance of general educational goals, it is necessary to formulate specific performance objectives or, as they are called here, action plans. In the suggestions we have included, the emphasis is on strategies related to vocational education, but many of the ideas are equally appropriate for other components of the high school curriculum. The people who proposed these action plans are vocational teachers, administrators, guidance counselors, high school principals, superintendents, politicians, company executives, researchers and government officials. But they have one thing in common: a strong desire to help improve the quality of public education in America.

A school or school district could organize a forum to consider action plans, using the same techniques as for general goals. In such a case, the school might choose a few of the action plans presented here, add others of its own and begin the procedure for establishing an order of priority.

But these action plans could also be used as a basis for discussion in a more informal community forum. Alternatively, the principal of a comprehensive high school or the vocational education director could use them as a basis for discussion in a staff meeting or as an aid in program planning. Finally, an individual vocational teacher could review the action plans for ideas that could lead to improvement in his or her own classes.

Though the organization of the action plans corresponds for the most part to the categories used in Sections 2 and 3, a few variations were necessary as a result of the nature and number of suggestions. Thus, "Facilities and Equipment" merits its own action plan here, while the four subcategories of Section 3, "Reaching Out to the Community," are merged into a single category. As your discussions on action plans proceed, you may wish to delete several categories or add others, according to local needs.

Administrative Leadership

1. Base planning on actual programmatic needs rather than simply on the requirements for compliance with federal and state laws and regulations.

2. Develop a statewide plan for program improvement in the comprehensive high school, with specific responsibilities assigned to state, regional and local administrators. Whenever possible, accomplish planning at the point of program delivery.

3. Provide the means for guidance counselors to make frequent visits to business and industry, and for the continuous flow of timely and accurate career and jobs information.

4. Guide students into the vocational system by providing career exploration from an early age. Guide students out of the system by helping them find appropriate jobs or postsecondary programs.

5. Consider tying the salaries of administrators, teachers and other staff members to measurements of their effectiveness.

6. Initiate an "excellence recognition program" to honor teachers, administrators and students who exhibit outstanding performance.

7. Create incentives for improving student and teacher attendance. These can include awards, extra credit for students and an offer to pay teachers for a certain number of unused sick days.

8. Require principals and other school administrators to take courses in vocational education philosophy and high technology as part of their certification or in-service requirements.

9. Provide regular in-service meetings and technical assistance for local administrators and teachers, and train them in the use of state-of-the-art equipment.

10. Establish flexibility in opening and closing programs in order to respond more effectively to changes in student needs and labor market demands. Strategies may include hiring some teachers on a part-time or short-term basis, retraining teachers, attracting a new clientele, or offering programs jointly with other educational institutions.

The Curriculum

1. Establish programs of excellence by allowing teachers to manage the learning experience and providing high-quality facilities and equipment.

2. Write an individual education plan, identifying proficiencies to be mastered, for each vocational student. Then determine where the skills can be obtained in the total curriculum, including both academic and vocational courses.

3. Mix and balance the curriculum to include several emphases: occupational skills, basic skills, world of work knowledge, job seeking expertise and the development of work values and attitudes.

4. Implement a competency-based instructional program.

5. Develop specific standards of program excellence for the entire school, and make sure all teachers are adhering to the same standards.

6. Offer a sufficient number and range of vocational courses so that students can obtain intensive preparation in a chosen specialty. When resources or enrollments are inadequate to justify starting a new program within the school, collaborate with industry and other educational institutions to offer equivalent training opportunities to students.

7. Establish high performance standards for all students, vocational and academic. Consider requiring that each student have a marketable skill in order to graduate.

8. Evaluate the need for increasing the total credit or time requirements for various vocational programs, or establishing minimum time blocks of three hours for instruction.

9. Operate summer institutes for intensive vocational instruction to disadvantaged, handicapped or advanced students.

The Teachers

1. To solve recruitment problems, consider diverting resources from other areas to offer higher base salaries or merit bonuses for outstanding teachers.

2. Involve all teachers in developing long-range plans for in-service training and other needs. Encourage teachers to become knowledgeable about high technology and the effective use of research findings in the classroom.

3. Require every vocational teacher to complete a paid summer internship in industry every five years.

4. Find ways for vocational teachers to become leaders in teaching other school staff about the educational implications of the new technology.

5. Provide recognition and financial rewards for good instruction.

6. Train administrators to be more sensitive to the importance of good instruction in the vocational classroom.

7. Train and hire more vocational generalists rather than those with narrow, job-specific training.

8. Implement a career ladder plan that distinguishes among beginning instructors, experienced teachers and master teachers.

Facilities and Equipment

1. Construct or select facilities of adequate size that possess the flexibility to meet future program needs. Make sure they are attractive, clean and well maintained.

2. To make maximum use of equipment, enroll adults in weekend and evening courses, design courses for postsecondary students when appropriate, or offer special courses to secondary students after school hours.

3. To avoid purchasing expensive but needed equipment, explore the possibility of leasing arrangements or donations from government or industry, sharing equipment with other schools, or contracting with private companies to use their equipment on site.

4. Donate or sell surplus equipment to another educational institution that needs it. The state should be responsible for transferring equipment it owns from one program to another.

5. Form a regional or statewide information network that inventories all equipment in each vocational program and use for exchange or sale of equipment.

6. Seek equipment donations from vendors for pilot programs, with a promise to publicize such acts of generosity.

Integration with the Academic Curriculum

1. Improve the relationship and integration of vocational and academic instruction.

2. Identify the existing goals of academic and vocational curriculums. Then list the goals they hold in common and plan how to reach them.

3. Develop a detailed action plan, with timelines, for increasing collaboration between vocational and academic education.

4. Identify science, math and language skills needed in each vocational program.

5. Encourage academic teachers to reinforce the content of vocational courses in teaching basic skills. Identify vocational materials that could be covered in mastering such skills.

6. Offer vocational staff assistance to academic instructors in developing new performance standards.

7. Through workshops and other means, improve the skills of vocational teachers in teaching and reinforcing academic skills in their programs.

Research and Evaluation

1. Encourage wider dissemination of research through training administrators and teachers as research users.

2. Support the development of more descriptive research on vocational education, so that program improvement plans will be based on actual circumstances in the classroom.

3. Work to increase the application of general education research (examples: research on effective schools, time on task, cognitive processes) to vocational education.

4. Include evaluation as an integral part of every vocational program, not just pilot programs that require it. Use the findings to improve future programs.

5. Monitor student progress through frequent testing, with an emphasis on early identification and remediation of deficiencies.

6. Do follow-up studies of vocational students several years after graduation to find out their current employment or educational status, level of earnings, and whether they believe their vocational programs were beneficial.

7. Find an assessment instrument that will identify community and school needs. Use the results to help direct activities of the vocational advisory committee.

Community Outreach

1. Develop a blueprint for action to encourage working relationships with business and industry, government agencies, the state legislature, postsecondary and other secondary institutions, the media and other important segments of the community. For maximum accountability, assign a person or team to carry out the blueprint and evaluate its effectiveness.

2. Consult with business leaders to make vocational programs more cost effective.

3. Bring the community into school vocational programs through class visits, open house and career fairs. Recruit community volunteers to work in vocational programs.

4. Move the school into the community by setting up an exhibit in a shopping mall or other central location, or organizing a speakers' bureau made up of vocational and academic teachers.

5. Allow students the option of dual enrollment in the home school and another institution, secondary or postsecondary, in order to gain more intensive training.

6. Use legislative lobbying and media relations to develop community-wide advocacy for vocational education. Let students help market programs through scheduling Guest Days when they can bring their friends to class.

7. Put your advisory committee to work validating proficiency standards, evaluating programs, testing student competencies and arranging internships for teachers.

8. Establish workshops to familiarize vocational educators with available community resources.

9. Ask local industries for loan personnel to teach technical concepts in the school or at the work site.

Share Your Agenda

Your own agenda for improving vocational education will be different from that of any other program, school or school district. Please remember, however, that your experience in formulating goals and action plans and in striving to reach them may be of interest to others working towards educational excellence in the comprehensive high school. We urge you to find opportunities to share ideas with colleagues at the regional and state levels; for national exposure of your best efforts for program improvement, contact the American Vocational Association.